

Chemicals and Related Products

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Change in 2005 from 2004:

U.S. trade deficit: Increased by \$10.0 billion (49 percent) to \$30.3 billion

U.S. exports: Increased by \$11.4 billion (9 percent) to \$132.7 billion

U.S. imports: Increased by \$21.4 billion (15 percent) to \$163.1 billion

In 2005, the U.S. trade deficit in chemicals and related products resumed its upward climb after a slight decline in 2004 (table CH-1). U.S. imports of these products increased by 15 percent to meet expanding domestic demand, driven primarily by the continuing growth of the U.S. economy and other major global economies, the decline of the U.S. dollar relative to NAFTA partners' currencies, and the impact of Hurricanes Katrina and Rita. Medicinal chemicals¹ and certain plastic materials and products accounted for a major portion of the total increase in U.S. imports of chemicals and related products in 2005 (table CH-2). U.S. exports of chemicals and related products rose 9 percent in 2005 after a 19 percent increase in 2004.

In 2005, the U.S. chemical industry continued to grow, albeit not at the pace set in 2004. Although feedstock price increases moderated somewhat in 2005, prices and demand for chemicals continued to increase, especially during the summer months, creating growth spurts in sales and profits during this period. In the last 5 months of 2005, however, the U.S. chemical industry was affected by Hurricanes Katrina and Rita. In spite of minimal damage and disruption to the plants in the affected areas, natural gas and petrochemical feedstock prices rose, which limited the ability of the domestic industry to compete in global markets and may present further challenges in the near future. However, the ability of U.S. chemical producers to pass through price increases to offset the rising costs of electricity and natural gas, used as fuel and feedstock, was important to the industry in 2005. The price index of total chemicals rose by 9.5 percent in 2005, compared to an increase of 7.2 percent for all domestically produced commodities. Other economic factors that affected the U.S. chemical industry during 2005 included the depreciation of the U.S. dollar relative to the Canadian and Mexican currencies; a decline in payrolls along with increased worker productivity; outsourcing; and inventory destocking in the first half of the year.²

In 2005, the major U.S. trading partners in chemicals and related products remained the same as in 2004. Canada, a NAFTA member with the United States and Mexico, and Ireland were the largest sources of U.S. imports. Canada and Mexico were the two largest markets for U.S. chemical exports in 2005, following the pattern of the past 4 years (table CH-1).

U.S. chemical imports increased 15 percent in 2005, reaching \$163 billion, with medicinal chemicals, miscellaneous plastic products, fertilizers, and major primary olefins registering large increases (table CH-2). Medicinal chemicals accounted for 34 percent (\$56 billion) of total chemical sector imports in 2005. Ireland continued to be the largest supplier, nearly \$17 billion, of medicinal chemicals to the United States because of its favorable tax policy

¹ Medicinal chemicals include pharmaceutical active ingredients and formulated products.

² Storck, "World Chemical Outlook," 12-13.

Table CH-1

Chemicals and related products: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2001–2005¹

Item	2001	2002	2003	2004	2005	Change, 2005 from 2004	
						Absolute	Percent
Million dollars							
U.S. exports of domestic merchandise:							
Canada	19,692	20,115	21,516	23,495	26,412	2,917	12.4
Mexico	12,266	12,444	13,300	15,797	18,122	2,325	14.7
Ireland	1,120	1,270	1,391	1,591	1,656	65	4.1
Japan	6,105	5,762	6,176	7,153	7,797	644	9.0
China	2,315	3,069	3,816	5,061	5,831	770	15.2
Germany	3,059	2,886	3,769	4,922	5,235	312	6.3
United Kingdom	5,806	5,179	5,089	5,413	6,183	770	14.2
France	3,032	3,185	3,488	4,142	4,311	169	4.1
Belgium	4,547	5,240	6,856	7,295	7,457	162	2.2
Netherlands	3,812	4,127	5,219	7,294	7,659	364	5.0
All other	29,520	28,425	31,710	39,220	42,071	2,851	7.3
Total	91,274	91,702	102,330	121,383	132,734	11,350	9.4
EU-15	24,711	25,058	29,275	34,954	37,047	2,093	6.0
EU-25	25,024	25,349	29,633	35,368	37,517	2,149	6.1
OPEC	2,091	1,761	1,621	2,195	2,664	468	21.3
Latin America	21,664	20,713	21,913	26,557	29,910	3,353	12.6
CBERA	2,176	2,188	2,225	2,467	2,833	366	14.8
Asia	18,651	19,754	22,490	27,513	29,618	2,105	7.6
Sub-Saharan Africa	780	699	717	867	958	91	10.5
Central and Eastern Europe	304	278	333	365	438	73	19.9
U.S. imports of merchandise for consumption:							
Canada	16,398	16,673	18,440	21,996	25,535	3,538	16.1
Mexico	3,388	3,637	3,779	4,790	5,429	639	13.3
Ireland	13,355	16,282	19,117	19,488	20,409	922	4.7
Japan	8,601	9,099	10,121	10,684	11,100	416	3.9
China	5,333	6,262	7,438	9,287	12,240	2,953	31.8
Germany	7,662	8,892	9,497	11,064	12,116	1,052	9.5
United Kingdom	7,466	8,195	9,450	9,843	9,772	-71	-0.7
France	4,883	5,119	6,338	7,333	8,171	838	11.4
Belgium	2,090	2,054	1,895	2,569	2,376	-193	-7.5
Netherlands	1,541	1,523	1,681	1,867	1,969	102	5.5
All other	27,847	29,188	36,165	42,762	53,933	11,172	26.1
Total	98,564	106,924	123,922	141,683	163,050	21,368	15.1
EU-15	42,784	48,700	56,408	62,016	66,942	4,926	7.9
EU-25	43,906	49,828	57,696	63,049	67,858	4,809	7.6
OPEC	4,742	5,024	6,944	9,741	12,237	2,496	25.6
Latin America	7,778	7,904	8,917	11,315	13,950	2,636	23.3
CBERA	1,312	1,109	1,724	2,049	2,747	697	34.0
Asia	20,777	22,768	26,810	30,487	36,805	6,318	20.7
Sub-Saharan Africa	660	448	598	716	875	159	22.2
Central and Eastern Europe	1,167	1,199	1,385	1,198	1,228	30	2.5

See footnote(s) at end of table.

Table CH-1—Continued

Chemicals and related products: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2001–2005¹

Item	2001	2002	2003	2004	2005	Change, 2005 from 2004	
						Absolute	Percent
Million dollars							
U.S. merchandise trade balance:							
Canada	3,294	3,442	3,076	1,499	878	-621	-41.4
Mexico	8,878	8,807	9,521	11,007	12,694	1,687	15.3
Ireland	-12,235	-15,012	-17,727	-17,897	-18,754	-856	-4.8
Japan	-2,496	-3,337	-3,945	-3,531	-3,304	228	6.5
China	-3,017	-3,193	-3,622	-4,225	-6,409	-2,184	-51.7
Germany	-4,603	-6,007	-5,728	-6,142	-6,881	-739	-12.0
United Kingdom	-1,660	-3,016	-4,361	-4,429	-3,588	841	19.0
France	-1,851	-1,934	-2,850	-3,191	-3,860	-669	-21.0
Belgium	2,457	3,186	4,961	4,726	5,081	355	7.5
Netherlands	2,271	2,605	3,537	5,427	5,689	262	4.8
All other	1,672	-763	-4,455	-3,541	-11,862	-8,321	-235.0
Total	-7,290	-15,222	-21,592	-20,299	-30,317	-10,017	-49.3
EU-15	-18,073	-23,642	-27,133	-27,062	-29,895	-2,833	-10.5
EU-25	-18,882	-24,479	-28,063	-27,680	-30,341	-2,660	-9.6
OPEC	-2,651	3,263	-5,322	-7,546	-9,574	-2,028	-26.9
Latin America	13,886	12,809	12,996	15,242	15,960	718	4.7
CBERA	864	1,079	501	418	86	-332	-79.4
Asia	-2,126	-3,015	-4,320	-2,973	-7,187	-4,214	-141.7
Sub-Saharan Africa	120	251	118	151	83	-68	-44.9
Central and Eastern Europe	-863	-921	-1,052	-832	-790	42	5.1

¹Import values are based on customs value; export values are based on f.a.s. value, U.S. port of export.

Note.—Calculations based on unrounded data. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products in 2005.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table CH-2
Leading changes in U.S. exports and imports of chemicals and related products, 2001–2005¹

Industry/commodity group	2001	2002	2003	2004	2005	Change, 2005 from 2004						
						Absolute	Percent					
U.S. EXPORTS:												
Increases:												
Medicinal chemicals (CH025)	18,169	18,742	22,527	27,098	29,296	2,198	8.1					
Miscellaneous plastic products (CH041)	12,561	12,567	13,041	14,307	15,826	1,519	10.6					
Other plastics in primary forms (CH036)	6,766	7,189	7,694	9,106	10,531	1,425	15.7					
Miscellaneous inorganic chemicals (CH013)	4,940	4,820	4,903	5,608	7,003	1,395	24.9					
Certain organic chemicals (CH012)	7,774	7,668	8,857	11,283	11,991	708	6.3					
Perfumes, cosmetics, and toiletries (CH027)	3,187	3,160	3,435	3,900	4,418	518	13.3					
Decreases:												
Organic commodity chemicals (CH010)	1,494	2,010	2,692	4,631	4,295	-336	-7.3					
All other	36,384	35,545	39,181	45,449	49,373	3,924	8.6					
TOTAL	91,274	91,702	102,330	121,383	132,734	11,350	9.4					
U.S. IMPORTS:												
Increases:												
Medicinal chemicals (CH025)	33,956	40,699	49,284	52,677	56,104	3,427	6.5					
Miscellaneous plastic products (CH041)	12,376	13,459	14,979	17,342	19,994	2,652	15.3					
Fertilizers (CH016)	3,478	3,043	4,395	5,510	7,439	1,929	35.0					
Major primary olefins (CH007)	2,913	3,397	4,144	5,908	7,774	1,867	31.6					
Certain organic chemicals (CH012)	5,148	4,699	4,878	5,811	7,263	1,451	25.0					
Pneumatic tires and tubes (new) (CH039)	4,146	4,694	5,170	6,163	7,583	1,420	23.0					
Miscellaneous inorganic chemicals (CH013)	5,195	4,948	5,038	5,714	6,626	912	16.0					
Decreases:												
Synthetic dyes and azoic couplers (CH019)	378	393	395	415	407	-8	-1.8					
All other	30,975	31,592	35,638	42,143	49,860	7,718	18.3					
TOTAL	98,564	106,924	123,922	141,683	163,050	21,368	15.1					

¹Import values are based on customs value; export values are based on f.a.s. value, U.S. port of export.

Note.—Calculations based on unrounded data.

Source: Compiled from official statistics of the U.S. Department of Commerce.

toward high-technology industries such as pharmaceuticals, availability of skilled workers, and relatively lower production costs.

Canada, the top U.S. chemical trade partner during 2001-05, was both the top supplier and market for numerous chemical products, with miscellaneous plastic products, medicinal chemicals, pneumatic tires, and polymers in primary forms accounting for the bulk of U.S.-Canada trade throughout this period.

In 2005, the major sector products that showed the largest export growth included chlor-alkali chemicals (33 percent), miscellaneous inorganic chemicals (25 percent), polypropylene resins in primary forms (25 percent), polyethylene resins in primary forms (20 percent), and other synthetic rubber (20 percent). Medicinal chemicals, miscellaneous plastic products, and other plastics in primary forms registered the largest increases in absolute value. The continued rise in U.S. exports of pharmaceuticals was owing, in part, to intracompany sales by multinational firms. Exports in other chemical sectors increased primarily because of the continued decline of the U.S. dollar. U.S. exports to Mexico consisted primarily of miscellaneous plastic products, cyclic hydrocarbons, and various plastic materials in primary forms.

Medicinal Chemicals¹

Change in 2005 from 2004:

U.S. trade deficit: Increased by \$1.2 billion (5 percent) to \$26.8 billion

U.S. exports: Increased by \$2.2 billion (8 percent) to \$29.3 billion

U.S. imports: Increased by \$3.4 billion (7 percent) to \$56.1 billion

After dipping slightly in 2004, the U.S. trade deficit in medicinal chemicals in 2005 returned to the 2003 level as U.S. imports of these products rose to meet expanding domestic demand. Aided by expanding world economies and a declining value of the dollar, U.S. exports of medicinal chemicals also increased in 2005, albeit at a significantly slower pace than in 2004.

Sustained world economic expansion allowed the U.S. chemical industry, including medicinal chemicals, to continue growing, despite higher energy and feedstock costs. Rising global and U.S. demand for medicinal chemicals resulted in the domestic production output index for these products increasing from 105.0 to 106.3 (1 percent) in 2005.²

In 2005, the U.S. chemical industry was affected by the declining U.S. dollar and disruptions caused by Hurricanes Katrina and Rita. Although these factors impacted the basic chemicals to a greater degree, there was a “trickle down” effect on the specialty chemicals such as pharmaceuticals. The United States remained the top pharmaceutical market in 2005 with 45 percent of global sales, followed by Japan, Germany, France, and the United Kingdom.³ Outsourcing the production of newer products to independent specialized producers in countries such as Ireland, Germany, the United Kingdom, and France was also a factor in the continued growth of medicinal imports in 2005.

U.S. exports

U.S. medicinal exports rose 8 percent to \$29.3 billion in 2005 (table CH-3). This increase resulted from rising demand in areas of continued economic expansion (e.g., the Netherlands, Canada, the United Kingdom, and Germany); the declining value of the dollar compared to other currencies, especially those of NAFTA partners; and the continuing globalization of this industry.⁴ The European Union market (EU-25) accounted for \$17.9 billion (61 percent) of total U.S. exports of medicinal chemicals in 2005.

U.S. imports

U.S. imports of medicinals increased by \$3.4 billion (7 percent) to \$56.1 billion in 2005. The major suppliers to the U.S. market by value were Ireland (\$16.5 billion), the United

¹ This industry/commodity group includes pharmaceutical active ingredients and formulated products containing pharmaceutical active ingredients.

² 2002 = 100. Storck, “World Chemical Outlook,” 13.

³ Class, “Pharma Reformulates,” 16.

⁴ As a firm becomes more global by expanding into more foreign markets, it usually becomes more economical to produce a specific medicinal chemical at one major plant and then ship the product to its subsidiaries rather than produce it in several countries.

Table CH-3

Medicinal chemicals (CH025): U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2001–2005¹

Item	2001	2002	2003	2004	2005	Change, 2005 from 2004	
						Absolute	Percent
Million dollars							
U.S. exports of domestic merchandise:							
Ireland	527	541	604	683	841	158	23.2
United Kingdom	3,152	2,646	2,342	2,574	3,138	564	21.9
Germany	1,214	966	1,656	2,608	2,599	-9	-0.4
France	1,617	1,775	2,017	2,495	2,580	85	3.4
Canada	2,200	2,349	2,706	2,825	2,937	112	4.0
Japan	1,483	1,448	1,492	1,679	1,892	213	12.7
Netherlands	1,153	1,542	2,459	4,071	4,185	114	2.8
Switzerland	547	592	1,057	1,309	1,496	187	14.3
Belgium	1,067	1,756	2,190	2,182	2,084	-98	-4.5
Italy	823	843	1,035	1,163	1,362	199	17.1
All other	4,385	4,284	4,968	5,509	6,182	673	12.2
Total	18,169	18,742	22,527	27,098	29,296	2,198	8.1
EU-15	10,258	10,765	13,078	16,883	17,768	884	5.2
EU-25	10,352	10,856	13,189	17,032	17,914	882	5.2
OPEC	215	197	210	233	251	18	7.6
Latin America	1,541	1,359	1,491	1,622	1,955	333	20.5
CBERA	231	218	240	260	338	79	30.3
Asia	2,488	2,611	2,928	2,905	3,446	541	18.6
Sub-Saharan Africa	104	66	113	117	162	45	38.5
Central and Eastern Europe	103	98	114	140	132	-8	-5.5
U.S. imports of merchandise for consumption:							
Ireland	11,930	14,235	16,199	16,091	16,536	445	2.8
United Kingdom	4,596	5,445	6,426	6,793	6,240	-553	-8.1
Germany	3,351	4,260	4,344	5,267	5,712	446	8.5
France	1,925	2,491	3,405	3,982	4,664	682	17.1
Canada	1,199	1,326	1,946	2,228	2,500	273	12.2
Japan	2,266	2,536	3,166	3,007	2,816	-192	-6.4
Netherlands	551	578	701	548	502	-45	-8.3
Switzerland	1,612	1,658	1,900	1,968	2,325	357	18.1
Belgium	1,260	1,319	1,167	1,739	1,302	-437	-25.1
Italy	1,139	1,023	1,166	1,403	2,000	596	42.5
All other	4,126	5,828	8,866	9,651	11,506	1,855	19.2
Total	33,956	40,699	49,284	52,677	56,104	3,427	6.5
EU-15	26,353	31,761	37,214	40,362	42,605	2,243	5.6
EU-25	26,420	32,287	38,058	40,893	42,900	2,007	4.9
OPEC	1	3	3	3	3	(²)	19.6
Latin America	258	297	319	544	421	-123	-22.5
CBERA	23	10	11	12	12	(²)	0.3
Asia	3,545	4,138	5,819	5,549	5,756	207	3.7
Sub-Saharan Africa	8	6	10	12	11	-1	-10.4
Central and Eastern Europe	118	591	903	619	408	-210	-34.0

See footnote(s) at end of table.

Table CH-3—Continued

Medicinal chemicals (CH025): U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2001–2005¹

Item	2001	2002	2003	2004	2005	Change, 2005 from 2004	
						Absolute	Percent
Million dollars							
U.S. merchandise trade balance:							
Ireland	-11,404	-13,694	-15,595	-15,408	-15,695	-287	-1.9
United Kingdom	-1,445	-2,798	-4,084	-4,220	-3,103	1,117	26.5
Germany	-2,137	-3,294	-2,687	-2,658	-3,114	-455	-17.1
France	-308	-716	-1,388	-1,486	-2,084	-597	-40.2
Canada	1,001	1,023	761	597	437	-160	-26.8
Japan	784	-1,087	-1,674	-1,328	-924	404	30.4
Netherlands	602	963	1,758	3,523	3,683	160	4.5
Switzerland	-1,065	-1,066	-843	-659	-829	-170	-25.8
Belgium	-193	436	1,023	443	782	339	76.4
Italy	316	-180	-131	-240	-637	-397	-165.3
All other	259	-1,544	-3,897	-4,142	-5,325	-1,183	-28.6
Total	-15,788	-21,957	-26,757	-25,578	-26,808	-1,229	-4.8
EU-15	-16,095	-20,996	-24,136	-23,479	-24,838	-1,359	-5.8
EU-25	-16,068	-21,431	-24,869	-23,860	-24,986	-1,126	-4.7
OPEC	214	194	207	231	248	17	7.5
Latin America	1,283	1,063	1,172	1,078	1,533	455	42.2
CBERA	209	208	229	248	326	79	31.7
Asia	-1,058	-1,527	-2,891	-2,645	-2,311	334	12.6
Sub-Saharan Africa	96	61	104	105	152	46	44.2
Central and Eastern Europe	-15	-494	-789	-479	-276	202	42.3

¹Import values are based on customs value; export values are based on f.a.s. value, U.S. port of export.

²Less than \$500,000.

Note.—Calculations based on unrounded data. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products in 2005.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Kingdom (\$6.2 billion), and Germany (\$5.7 billion). Together, these three countries accounted for more than 51 percent of total U.S. medicinal imports in 2005.

Ireland continued to be the largest supplier of medicinal chemicals to the United States in 2005 because of its favorable tax policy toward high-technology industries such as medicinal chemicals, the availability of skilled workers, and relatively lower production costs. In 2005, imports from Ireland increased nearly 3 percent after registering a decline in 2004. Medicinal imports from Germany also increased by more than 8 percent mainly because of continuing intracompany trade, outsourcing, and increasing demand in the United States.

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Miscellaneous Plastic Products

Change in 2005 from 2004:

U.S. trade deficit: Increased by \$1.1 billion (37 percent) to \$4.2 billion

U.S. exports: Increased by \$1.5 billion (11 percent) to \$15.8 billion

U.S. imports: Increased by \$2.7 billion (15 percent) to \$20.0 billion

Miscellaneous plastic products (MPPs)¹ registered its fourth consecutive record U.S. trade deficit in 2005. The rise in imports from China (\$1.1 billion) equaled the total increase in the U.S. trade deficit in 2005 (table CH-4).^{2, 3} This deficit increase, the same as that of 2004, followed strengthening U.S. consumer demand fueled by low interest rates.⁴ Demand continued to strengthen for a myriad of plastic consumer items and construction products purchased through mass merchandising discount outlets and retail chains. Moreover, the increasing economic integration and interdependence of countries was reflected in the continued participation of U.S. and multinational firms in new primary plastics and MPPs projects in Asia with the potential of exporting to the United States.^{5, 6} Hurricanes Katrina and Rita, which hit the U.S. Gulf Coast in August and September 2005, respectively, precipitated periodic supply disruptions and a runup in natural gas fuel and feedstock prices during the fourth quarter of 2005, events which may have also contributed to the larger trade deficit.

U.S. exports

U.S. MPPs exports rose 11 percent to a record \$15.8 billion in 2005, principally because of the improving U.S. economy⁷ and burgeoning trade with Canada and Mexico, together with the lower value of the U.S. dollar relative to foreign currencies, especially the euro.⁸ Exports were also spurred by U.S. and multinational participation in joint-venture projects, especially in Asia.⁹ About \$14 billion (90 percent) of U.S. MPPs exports was attributable to three major product areas: consumer goods sold at the retail level in department stores, pharmacies, and hardware stores; packaging articles, particularly plastic bags and sacks of many varieties; and sheet and film used for the packaging of products and other purposes.¹⁰ In 2005, Mexico and

¹ This industry/commodity group includes fabricated and semifabricated MPPs used for a wide variety of consumer and industrial products enumerated in Chapter 39 of the Harmonized Tariff Schedule of the United States (HTS). Selected examples of MPPs include food/commodity packaging films and containers; grocery and shopping bags; buckets, pails, tarpaulins and other coverings; sporting goods components; Naugahyde® upholstery and flexible case materials; scrap foam for carpet and other padding; floor and wall coverings; medical goods and gloves; polyester tire cord and strapping; plumbing supplies and fixtures; container closures; belts and hoses; electrical, packaging, and sealing tapes; and vinyl siding, flooring, window frames, doors, and decking products and components.

² Some of the reasons for the rise in the trade deficit with China include the slow progress of China to adopt more market-oriented foreign exchange policies, outsourcing, and the movement of U.S. manufacturing to low-wage locations in China. Esposito, "Paradigm Shift," 1, 20.

³ Frank Esposito, (Plastics News), telephone interview by Commission staff, March 30, 2006.

⁴ Council of Economic Advisers, *Economic Report of the President*, 284 (Table B-3).

⁵ The United States is typically more vulnerable to net imports of certain MPPs from labor-intensive industries than from the plastic resins sector, which is generally more automated and relatively less labor intensive.

⁶ Blaige, "How to Survive Consolidation," 6-7.

⁷ U.S. Office of Management and Budget, *Overview of the President's 2007 Budget*.

⁸ Young, "Global Outlook 2005," 27.

⁹ Blaige, "How to Survive Consolidation," 6-7.

¹⁰ USITC, *Dataweb*.

Table CH-4

Miscellaneous plastic products (CH041): U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2001–2005¹

Item	2001	2002	2003	2004	2005	Change, 2005 from 2004	
						Absolute	Percent
Million dollars							
U.S. exports of domestic merchandise:							
Canada	3,393	3,568	3,766	3,983	4,523	540	13.6
Mexico	3,801	3,752	3,773	4,105	4,544	439	10.7
China	252	291	354	514	547	33	6.4
Japan	456	420	481	522	538	15	3.0
Germany	343	374	368	409	439	30	7.3
Taiwan	176	197	177	271	235	-36	-13.4
United Kingdom	499	449	472	497	557	59	12.0
Korea	192	204	202	216	226	11	4.9
Hong Kong	266	275	318	368	429	61	16.7
France	236	214	216	245	229	-16	-6.6
All other	2,946	2,823	2,913	3,177	3,561	383	12.1
Total	12,561	12,567	13,041	14,307	15,826	1,519	10.6
EU-15	1,918	1,829	1,889	2,150	2,314	165	7.7
EU-25	1,961	1,869	1,922	2,197	2,377	180	8.2
OPEC	181	153	136	166	210	44	26.6
Latin America	4,791	4,692	4,710	5,036	5,628	592	11.8
CBERA	447	483	535	489	557	68	14.0
Asia	1,869	1,901	2,060	2,453	2,580	127	5.2
Sub-Saharan Africa	63	73	69	73	81	7	9.9
Central and Eastern Europe	42	39	39	45	59	14	30.8
U.S. imports of merchandise for consumption:							
Canada	3,846	4,122	4,465	5,037	5,645	608	12.1
Mexico	956	1,021	1,105	1,387	1,633	246	17.7
China	2,776	3,273	3,742	4,480	5,600	1,120	25.0
Japan	722	701	768	887	936	49	5.5
Germany	565	661	769	822	883	61	7.4
Taiwan	805	836	872	940	982	42	4.5
United Kingdom	383	380	386	437	471	33	7.7
Korea	310	363	440	551	601	50	9.1
Hong Kong	133	153	178	205	214	10	4.7
France	196	211	240	254	263	8	3.3
All other	1,683	1,738	2,016	2,342	2,767	424	18.1
Total	12,376	13,459	14,979	17,342	19,994	2,652	15.3
EU-15	1,812	1,933	2,136	2,364	2,554	190	8.0
EU-25	1,881	1,968	2,175	2,422	2,599	177	7.3
OPEC	82	89	98	117	151	35	29.7
Latin America	1,192	1,265	1,434	1,765	2,069	304	17.2
CBERA	105	124	170	178	197	19	10.9
Asia	5,097	5,730	6,501	7,672	9,178	1,506	19.6
Sub-Saharan Africa	10	18	26	28	34	6	21.9
Central and Eastern Europe	70	34	41	58	48	-10	-17.3

See footnote(s) at end of table.

Table CH-4—Continued

Miscellaneous plastic products (CH041): U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2001–2005¹

Item	2001	2002	2003	2004	2005	Change, 2005 from 2004	
						Absolute	Percent
Million dollars							
U.S. merchandise trade balance:							
Canada	-453	-555	-699	-1,054	-1,122	-68	-6.4
Mexico	2,845	2,731	2,668	2,718	2,911	193	7.1
China	-2,524	-2,982	-3,388	-3,966	-5,053	-1,087	-27.4
Japan	-266	-281	-287	-365	-398	-33	-9.1
Germany	-221	-286	-401	-413	-444	-31	-7.5
Taiwan	629	639	695	668	747	-79	-11.8
United Kingdom	115	69	87	60	86	26	43.4
Korea	-118	-159	-238	-335	-375	-40	-11.8
Hong Kong	132	123	141	163	215	52	31.7
France	40	3	-24	-9	-34	-25	-261.6
All other	1,264	1,085	898	835	794	-41	-4.9
Total	185	-892	-1,938	-3,035	-4,167	-1,133	-37.3
EU-15	107	-103	-247	-214	-239	-25	-11.8
EU-25	81	-99	-252	-224	-221	3	1.4
OPEC	99	63	38	49	59	9	19.3
Latin America	3,599	3,426	3,275	3,271	3,559	288	8.8
CBERA	341	359	365	311	360	49	15.7
Asia	-3,228	-3,829	-4,441	-5,218	-6,598	-1,379	-26.4
Sub-Saharan Africa	52	56	43	46	47	1	2.7
Central and Eastern Europe	-28	4	-2	-13	11	24	(²)

¹Import values are based on customs value; export values are based on f.a.s. value, U.S. port of export.

²Not meaningful for purposes of comparison.

Note.—Calculations based on unrounded data. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products in 2005.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Canada were the main markets for MPPs, accounting for \$9.1 billion (32 percent) of U.S. MPPs exports.¹¹ Asian countries, in the aggregate, accounted for \$2.6 billion (16 percent) of U.S. exports, followed by the European Union with \$2.3 billion (15 percent).

U.S. imports

In 2005, U.S. imports of MPPs increased \$2.7 billion (15 percent) to a record \$20.0 billion, continuing the upward movement that has prevailed for several years. China accounted for 42 percent of the increase, while Canada (23 percent) and Mexico (9 percent) also accounted for large shares of the increase. Imports accounted for about 12 percent of U.S. MPPs consumption, compared with 10 percent in 2004.¹² Industry sources cite a number of reasons for the large increases in imports in 2004-05, including the continued movement of domestic manufacturing offshore,¹³ high U.S. energy prices, outsourcing to low wage areas, and China's persistently undervalued currency.^{14, 15} More than 70 percent of U.S. imports of MPPs in 2005 consisted of a variety of consumer goods sold at retail and discount establishments, including packaging articles, particularly plastic bags and sacks of many varieties; sheet and film used for the packaging of products and other applications; and tableware, kitchenware, and other household articles.¹⁶ Canada and China were the two principal sources of U.S. imports of MPPs in 2005, accounting for \$5.6 billion (28 percent) each. In 2005, U.S. MPPs imports from all Asian countries accounted for \$9.2 billion (46 percent) of total U.S. imports of MPPs.¹⁷

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¹¹ Mexico, the only country with which the United States enjoys a significant trade surplus in MPPs, accounted for the second-largest increase in U.S. exports in 2005 (11 percent). Canada accounted for the largest rise (14 percent).

¹² Apparent domestic consumption was about \$163 billion in 2004 and \$170 billion in 2005. U.S. Department of Commerce, *Annual Survey of Manufacturers*.

¹³ "Firms open medical device venture in China."

¹⁴ Esposito, "Pradigm Shift," 1, 20.

¹⁵ Frank Esposito, (Plastics News), telephone interview by Commission staff, March 30, 2006.

¹⁶ USITC, *Dataweb*.

¹⁷ China, Japan, Taiwan, and Korea accounted for the bulk of Asian imports.

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Table CH-5
Chemicals and related products : U.S. trade for industry/commodity groups and subgroups, 2001-2005¹

USITC code ²	Industry/commodity group	2001	2002	2003	2004	2005	Change, 2005 from 2004	
							Absolute	Percent
				<i>Million dollars</i>				
CH007	Major primary olefins:							
	Exports	120	245	217	474	451	-23	-4.9
	Imports	2,913	3,397	4,144	5,908	7,774	1,867	31.6
	Trade balance	-2,793	-3,152	-3,927	-5,434	-7,324	-1,890	-34.8
CH008	Other olefins:							
	Exports	311	260	343	430	420	-10	-2.2
	Imports	143	113	127	158	261	103	65.0
	Trade balance	168	147	217	272	159	-112	-41.3
CH009	Primary aromatics:							
	Exports	122	148	368	782	548	-234	-29.9
	Imports	1,122	1,159	1,450	2,202	2,802	600	27.2
	Trade balance	-1,000	-1,011	-1,082	-1,420	-2,254	-834	-58.7
CH010	Organic commodity chemicals:							
	Exports	1,494	2,010	2,692	4,631	4,295	-336	-7.3
	Imports	1,021	1,111	1,319	1,997	2,398	401	20.1
	Trade balance	474	898	1,373	2,635	1,897	-737	-28.0
CH011	Organic specialty chemicals:							
	Exports	5,678	5,050	6,004	6,731	6,999	268	4.0
	Imports	6,962	6,781	6,675	6,852	7,744	891	13.0
	Trade balance	-1,285	-1,731	-671	-121	-744	-623	-515.3
CH012	Certain organic chemicals:							
	Exports	7,774	7,668	8,857	11,283	11,991	708	6.3
	Imports	5,148	4,699	4,878	5,811	7,263	1,451	25.0
	Trade balance	2,626	2,969	3,979	5,472	4,729	-743	-13.6
CH013	Miscellaneous inorganic chemicals:							
	Exports	4,940	4,820	4,903	5,608	7,003	1,395	24.9
	Imports	5,195	4,948	5,038	5,714	6,626	912	16.0
	Trade balance	-255	-128	-135	-106	377	483	(³)
CH014	Inorganic acids:							
	Exports	242	214	219	267	296	29	10.9
	Imports	252	246	229	337	362	24	7.2
	Trade balance	-9	-32	-10	-70	-66	5	6.6
CH015	Chlor-alkali chemicals:							
	Exports	1,054	851	897	953	1,269	316	33.1
	Imports	219	166	206	252	452	200	79.4
	Trade balance	835	685	691	701	817	116	16.5

See footnote(s) at end of table.

Table CH-5--Continued
Chemicals and related products : U.S. trade for industry/commodity groups and subgroups, 2001-2005¹

USITC code ²	Industry/commodity group	2001	2002	2003	2004	2005	Change, 2005 from 2004	
							Absolute	Percent
				<i>Million dollars</i>				
CH016	Fertilizers:							
	Exports	2,183	2,184	2,429	2,718	3,005	286	10.5
	Imports	3,478	3,043	4,395	5,510	7,439	1,929	35.0
	Trade balance	-1,295	-859	-1,966	-2,792	-4,434	-1,642	-58.8
CH017	Paints, inks, and related items, and certain components thereof:							
	Exports	3,546	3,614	3,918	4,200	4,509	309	7.4
	Imports	2,090	1,996	2,078	2,241	2,598	357	15.9
	Trade balance	1,455	1,618	1,840	1,959	1,911	-48	-2.4
CH018	Synthetic organic pigments:							
	Exports	329	331	332	376	400	24	6.4
	Imports	301	319	333	368	396	28	7.6
	Trade balance	29	12	-1	8	5	-4	-45.1
CH019	Synthetic dyes and azoic couplers:							
	Exports	361	249	226	287	283	-4	-1.5
	Imports	378	393	395	415	407	-8	-1.8
	Trade balance	-16	-143	-169	-128	-125	3	2.5
CH020	Synthetic tanning agents:							
	Exports	17	18	32	35	28	-7	-19.2
	Imports	5	7	8	8	8	(⁴)	-4.8
	Trade balance	12	12	24	27	21	-6	-23.4
CH021	Natural tanning and dyeing materials:							
	Exports	26	27	26	44	77	33	75.8
	Imports	65	54	63	70	74	5	6.6
	Trade balance	-40	-27	-36	-26	3	29	(³)
CH022	Photographic chemicals and preparations:							
	Exports	413	522	475	435	460	24	5.6
	Imports	479	435	382	409	446	37	8.9
	Trade balance	-66	87	93	26	14	-12	-46.4
CH023	Pesticide products and formulations:							
	Exports	2,166	2,028	2,316	2,674	2,708	34	1.3
	Imports	1,318	1,185	1,419	1,589	1,898	308	19.4
	Trade balance	848	842	897	1,085	811	-274	-25.3

See footnote(s) at end of table.

Table CH-5--Continued
Chemicals and related products : U.S. trade for industry/commodity groups and subgroups, 2001-2005¹

USITC code ²	Industry/commodity group	2001	2002	2003	2004	2005	Change, 2005 from 2004	
							Absolute	Percent
				<i>Million dollars</i>				
CH024	Adhesives and glues:							
	Exports	565	588	600	702	807	104	14.8
	Imports	176	206	251	305	333	28	9.1
	Trade balance	388	382	349	397	473	76	19.3
CH025	Medicinal chemicals:							
	Exports	18,169	18,742	22,527	27,098	29,296	2,198	8.1
	Imports	33,956	40,699	49,284	52,677	56,104	3,427	6.5
	Trade balance	-15,788	-21,957	-26,757	-25,578	-26,808	-1,229	-4.8
CH026	Essential oils and other flavoring materials:							
	Exports	1,109	1,211	1,389	1,462	1,420	-41	-2.8
	Imports	736	786	1,754	2,540	3,019	479	18.8
	Trade balance	373	425	-365	-1,078	-1,598	-520	-48.2
CH027	Perfumes, cosmetics, and toiletries:							
	Exports	3,187	3,160	3,435	3,900	4,418	518	13.3
	Imports	2,443	2,716	3,111	3,652	4,099	447	12.2
	Trade balance	744	444	324	248	319	71	28.4
CH028	Soaps, detergents, and surface-active agents:							
	Exports	2,223	2,282	2,524	2,929	3,192	263	9.0
	Imports	1,115	1,273	1,369	1,568	1,680	112	7.2
	Trade balance	1,107	1,009	1,156	1,361	1,511	151	11.1
CH029	Miscellaneous chemicals and specialties:							
	Exports	2,862	2,901	3,149	3,444	3,708	265	7.7
	Imports	1,856	1,957	2,150	2,497	2,907	410	16.4
	Trade balance	1,006	944	999	947	801	-145	-15.3
CH030	Explosives, propellant powders, and related items:							
	Exports	254	286	385	472	476	4	0.8
	Imports	285	302	353	402	459	57	14.3
	Trade balance	-31	-17	33	70	16	-53	-76.4
CH031	Polyethylene resins in primary forms:							
	Exports	2,416	2,590	2,817	3,698	4,448	750	20.3
	Imports	1,735	1,651	2,158	2,505	3,227	722	28.8
	Trade balance	681	938	658	1,192	1,221	29	2.4

See footnote(s) at end of table.

Table CH-5--Continued
Chemicals and related products : U.S. trade for industry/commodity groups and subgroups, 2001-2005¹

USITC code ²	Industry/commodity group	2001	2002	2003	2004	2005	Change, 2005 from 2004	
							Absolute	Percent
				<i>Million dollars</i>				
CH032	Polypropylene resins in primary forms:							
	Exports	1,100	1,188	1,416	1,767	2,202	435	24.6
	Imports	219	259	298	359	415	56	15.7
	Trade balance	881	929	1,118	1,408	1,787	379	26.9
CH033	Polyvinyl chloride resins in primary forms:							
	Exports	1,004	781	837	1,044	1,112	68	6.5
	Imports	332	247	287	383	593	211	55.0
	Trade balance	672	534	550	661	519	-143	-21.6
CH034	Styrene polymers in primary forms:							
	Exports	731	752	783	929	1,039	110	11.9
	Imports	579	580	628	833	1,153	320	38.4
	Trade balance	152	172	155	96	-114	-210	(³)
CH035	Saturated polyester resins:							
	Exports	798	712	814	1,014	1,059	45	4.4
	Imports	502	537	656	728	1,199	471	64.7
	Trade balance	296	175	158	285	-141	-426	(³)
CH036	Other plastics in primary forms:							
	Exports	6,766	7,189	7,694	9,106	10,531	1,425	15.7
	Imports	2,649	2,823	3,022	3,488	4,050	562	16.1
	Trade balance	4,117	4,366	4,673	5,618	6,481	863	15.4
CH037	Styrene-butadiene rubber in primary forms:							
	Exports	297	273	324	374	505	130	34.9
	Imports	258	232	231	235	415	180	76.3
	Trade balance	39	41	93	139	90	-49	-35.4
CH038	Other synthetic rubber:							
	Exports	1,328	1,361	1,478	1,801	2,160	359	20.0
	Imports	734	725	741	858	1,117	259	30.2
	Trade balance	594	636	737	943	1,043	100	10.6
CH039	Pneumatic tires and tubes (new):							
	Exports	2,282	2,233	2,212	2,550	2,810	260	10.2
	Imports	4,146	4,694	5,170	6,163	7,583	1,420	23.0
	Trade balance	-1,864	-2,460	-2,957	-3,613	-4,773	-1,160	-32.1
CH040	Other tires:							
	Exports	96	94	98	108	116	8	7.5
	Imports	122	123	137	158	203	45	28.7
	Trade balance	-26	-29	-39	-50	-87	-37	-74.3

See footnote(s) at end of table.

Table CH-5--Continued
Chemicals and related products : U.S. trade for industry/commodity groups and subgroups, 2001-2005¹

USITC code ²	Industry/commodity group	2001	2002	2003	2004	2005	Change, 2005 from 2004	
							Absolute	Percent
Million dollars								
CH041	Miscellaneous plastic products:							
	Exports	12,561	12,567	13,041	14,307	15,826	1,519	10.6
	Imports	12,376	13,459	14,979	17,342	19,994	2,652	15.3
	Trade balance	185	-892	-1,938	-3,035	-4,167	-1,133	-37.3
CH042	Miscellaneous rubber products:							
	Exports	2,645	2,437	2,400	2,623	2,743	120	4.6
	Imports	2,549	2,752	3,040	3,568	3,884	316	8.9
	Trade balance	96	-315	-641	-945	-1,141	-196	-20.7
CH043	Gelatin:							
	Exports	74	75	92	89	88	-1	-1.2
	Imports	94	96	115	113	116	3	2.7
	Trade balance	-20	-21	-23	-24	-28	-4	-17.2
CH044	Natural rubber:							
	Exports	34	40	59	37	34	-2	-6.0
	Imports	613	751	1,047	1,466	1,552	86	5.9
	Trade balance	-579	-712	-988	-1,429	-1,517	-88	-6.2

¹Import values are based on customs value; export values are based on f.a.s. value, U.S. port of export.

²This coding system is used by the U.S. International Trade Commission to identify major groupings and subgroupings of HTS import and export items for trade monitoring purposes

³Not meaningful for purposes of comparison.

⁴Less than \$500,000.

Note.—Calculations based on unrounded data.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table CH-6

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2001–2005

USITC code	Industry/commodity group	2001	2002	2003	2004	2005	Percent change, 2005 from 2004
CH007	Major primary olefins:						
	Number of establishments	37	37	37	37	35	-5.4
	Employees (thousands)	5.0	5.0	5.0	5.0	5.0	0.0
	Capacity utilization (percent)	92	95	95	97	91	-6.2
	U.S. shipments (million dollars)	17,500	19,000	19,500	21,800	20,500	-6.0
	U.S. exports (million dollars)	120	245	217	474	451	-4.9
	U.S. imports (million dollars)	2,913	3,397	4,144	5,908	7,774	31.6
	Apparent U.S. consumption (million dollars)	20,293	22,152	23,427	27,234	27,824	2.2
	Trade balance (million dollars)	-2,793	-3,152	-3,927	-5,434	-7,324	-34.8
	Ratio of imports to consumption (percent)	14.4	15.3	17.7	21.7	27.9	28.6
	Ratio of exports to shipments (percent)	0.7	1.3	1.1	2.2	2.2	0.0
CH008	Other olefins:						
	Number of establishments	23	23	23	23	21	-8.7
	Employees (thousands)	1.0	1.0	1.0	1.0	1.0	0.0
	Capacity utilization (percent)	95	97	97	98	90	-8.2
	U.S. shipments (million dollars)	1,500	1,650	1,800	2,000	1,850	-7.5
	U.S. exports (million dollars)	311	260	343	430	420	-2.2
	U.S. imports (million dollars)	143	113	127	158	261	65.0
	Apparent U.S. consumption (million dollars)	1,332	1,503	1,583	1,728	1,691	-2.2
	Trade balance (million dollars)	168	147	217	272	159	-41.3
	Ratio of imports to consumption (percent)	10.7	7.5	8.0	9.1	15.4	69.2
	Ratio of exports to shipments (percent)	20.7	15.7	19.1	21.5	22.7	5.6
CH009	Primary aromatics:						
	Number of establishments	31	31	31	31	29	-6.5
	Employees (thousands)	2.0	2.0	2.0	2.0	2.0	0.0
	Capacity utilization (percent)	85	85	85	85	75	-11.8
	U.S. shipments (million dollars)	4,900	5,000	5,300	6,890	5,900	-14.4
	U.S. exports (million dollars)	122	148	368	782	548	-29.9
	U.S. imports (million dollars)	1,122	1,159	1,450	2,202	2,802	27.2
	Apparent U.S. consumption (million dollars)	5,900	6,011	6,382	8,310	8,154	-1.9
	Trade balance (million dollars)	-1,000	-1,011	-1,082	-1,420	-2,254	-58.7
	Ratio of imports to consumption (percent)	19.0	19.3	22.7	26.5	34.4	29.8
	Ratio of exports to shipments (percent)	2.5	3.0	6.9	11.3	9.3	-17.7

See footnote(s) at end of table.

Table CH-6—Continued

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2001–2005

USITC code	Industry/commodity group	2001	2002	2003	2004	2005	Percent change, 2005 from 2004
CH014	Inorganic acids:						
	Number of establishments	(¹)					
	Employees (thousands)	(¹)					
	Capacity utilization (percent)	(¹)					
	U.S. shipments (million dollars)	1,852	2,201	2,557	(¹)	(¹)	(¹)
	U.S. exports (million dollars)	242	214	219	267	296	10.9
	U.S. imports (million dollars)	252	246	229	337	362	7.2
	Apparent U.S. consumption (million dollars)	1,861	2,233	2,567	(¹)	(¹)	(¹)
	Trade balance (million dollars)	-9	-32	-10	-70	-66	6.6
	Ratio of imports to consumption (percent)	13.5	11.0	8.9	(¹)	(¹)	(¹)
	Ratio of exports to shipments (percent)	13.1	9.7	8.6	(¹)	(¹)	(¹)
CH015	Chlor-alkali chemicals:						
	Number of establishments	(¹)					
	Employees (thousands)	(¹)					
	Capacity utilization (percent)	(¹)					
	U.S. shipments (million dollars)	3,210	(¹)				
	U.S. exports (million dollars)	1,054	851	897	953	1,269	33.1
	U.S. imports (million dollars)	219	166	206	252	452	79.4
	Apparent U.S. consumption (million dollars)	2,375	(¹)				
	Trade balance (million dollars)	835	685	691	701	817	16.5
	Ratio of imports to consumption (percent)	9.2	(¹)				
	Ratio of exports to shipments (percent)	32.8	(¹)				
CH016	Fertilizers:						
	Number of establishments	350	350	350	348	345	-0.9
	Employees (thousands)	22.0	20.0	20.0	20.0	19.0	-5.0
	Capacity utilization (percent)	76	90	81	89	88	-1.1
	U.S. shipments (million dollars)	10,100	10,200	11,300	12,600	13,900	10.3
	U.S. exports (million dollars)	2,183	2,184	2,429	2,718	3,005	10.5
	U.S. imports (million dollars)	3,478	3,043	4,395	5,510	7,439	35.0
	Apparent U.S. consumption (million dollars)	11,395	11,059	13,266	15,392	18,334	19.1
	Trade balance (million dollars)	-1,295	-859	-1,966	-2,792	-4,434	-58.8
	Ratio of imports to consumption (percent)	30.5	27.5	33.1	35.8	40.6	13.4
	Ratio of exports to shipments (percent)	21.6	21.4	21.5	21.6	21.6	0.0

See footnote(s) at end of table.

Table CH-6—Continued

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2001–2005

USITC code	Industry/commodity group	2001	2002	2003	2004	2005	Percent change, 2005 from 2004
CH017	Paints, inks, and related items, and certain components thereof:						
	Number of establishments	1,470	1,450	1,445	1,450	1,437	-0.9
	Employees (thousands)	16.0	15.0	16.0	16.0	16.0	0.0
	Capacity utilization (percent)	85	85	86	85	87	2.4
	U.S. shipments (million dollars)	25,600	26,000	2,660	2,800	2,940	5.0
	U.S. exports (million dollars)	3,546	3,614	3,918	4,200	4,509	7.4
	U.S. imports (million dollars)	2,090	1,996	2,078	2,241	2,598	15.9
	Apparent U.S. consumption (million dollars)	24,145	24,382	820	841	1,029	22.3
	Trade balance (million dollars)	1,455	1,618	1,840	1,959	1,911	-2.4
	Ratio of imports to consumption (percent)	8.7	8.2	² 253.5	² 266.5	² 252.5	-5.3
	Ratio of exports to shipments (percent)	13.9	13.9	² 147.3	² 150.0	² 153.4	2.3
CH018	Synthetic organic pigments:						
	Number of establishments	32	32	32	32	8	-75.0
	Employees (thousands)	6.0	6.0	6.0	6.0	6.0	0.0
	Capacity utilization (percent)	80	80	75	80	85	6.3
	U.S. shipments (million dollars)	1,100	1,110	1,100	1,210	1,250	3.3
	U.S. exports (million dollars)	329	331	332	376	400	6.4
	U.S. imports (million dollars)	301	319	333	368	396	7.6
	Apparent U.S. consumption (million dollars)	1,071	1,098	1,101	1,202	1,245	3.6
	Trade balance (million dollars)	29	12	-1	8	5	-45.1
	Ratio of imports to consumption (percent)	28.1	29.0	30.3	30.6	31.8	3.9
	Ratio of exports to shipments (percent)	29.9	29.8	30.2	31.1	32.0	2.9
CH019	Synthetic dyes and azoic couplers:						
	Number of establishments	32	32	32	32	13	-59.4
	Employees (thousands)	8.0	8.0	8.0	8.0	8.0	0.0
	Capacity utilization (percent)	80	80	75	80	80	0.0
	U.S. shipments (million dollars)	1,320	1,320	1,320	1,450	1,500	3.4
	U.S. exports (million dollars)	361	249	226	287	283	-1.5
	U.S. imports (million dollars)	378	393	395	415	407	(³)
	Apparent U.S. consumption (million dollars)	1,336	1,463	1,489	1,578	1,625	3.0
	Trade balance (million dollars)	-16	-143	-169	-128	-125	2.5
	Ratio of imports to consumption (percent)	28.3	26.8	26.5	26.3	25.1	-4.6
	Ratio of exports to shipments (percent)	27.4	18.9	17.1	19.8	18.8	-5.1

See footnote(s) at end of table.

Table CH-6—Continued

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2001–2005

USITC code	Industry/commodity group	2001	2002	2003	2004	2005	Percent change, 2005 from 2004
CH020	Synthetic tanning agents:						
	Number of establishments	5	5	5	5	5	0.0
	Employees (thousands)	1.0	1.0	1.0	1.0	1.0	0.0
	Capacity utilization (percent)	80	80	75	80	80	0.0
	U.S. shipments (million dollars)	24	24	42	46	46	0.0
	U.S. exports (million dollars)	17	18	32	35	28	-19.2
	U.S. imports (million dollars)	5	7	8	8	8	(³)
	Apparent U.S. consumption (million dollars)	12	12	18	19	25	34.0
	Trade balance (million dollars)	12	12	24	27	21	-23.4
	Ratio of imports to consumption (percent)	41.4	53.6	46.6	42.2	30.0	-28.9
CH021	Natural tanning and dyeing materials:						
	Number of establishments	10	10	10	10	10	0.0
	Employees (thousands)	1.0	1.0	1.0	1.0	1.0	0.0
	Capacity utilization (percent)	80	80	75	80	80	0.0
	U.S. shipments (million dollars)	30	30	35	45	45	0.0
	U.S. exports (million dollars)	26	27	26	44	77	75.8
	U.S. imports (million dollars)	65	54	63	70	74	6.6
	Apparent U.S. consumption (million dollars)	70	57	71	71	42	-40.8
	Trade balance (million dollars)	-40	-27	-36	-26	3	(⁴)
	Ratio of imports to consumption (percent)	93.9	95.4	87.9	98.7	² 177.7	80.0
CH022	Photographic chemicals and preparations:						
	Number of establishments	5	5	5	5	5	0.0
	Employees (thousands)	1.0	1.0	1.0	1.0	1.0	0.0
	Capacity utilization (percent)	80	80	75	75	75	0.0
	U.S. shipments (million dollars)	(¹)	(¹)				
	U.S. exports (million dollars)	413	522	475	435	460	5.6
	U.S. imports (million dollars)	479	435	382	409	446	8.9
	Apparent U.S. consumption (million dollars)	(¹)	(¹)				
	Trade balance (million dollars)	-66	87	93	26	14	-46.4
	Ratio of imports to consumption (percent)	(¹)	(¹)				
	Ratio of exports to shipments (percent)	(¹)	(¹)				

See footnote(s) at end of table.

Table CH-6—Continued

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2001–2005

USITC code	Industry/commodity group	2001	2002	2003	2004	2005	Percent change, 2005 from 2004
CH023	Pesticide products and formulations:						
	Number of establishments	55	55	43	43	20	-53.5
	Employees (thousands)	14.0	14.0	14.0	14.0	14.0	0.0
	Capacity utilization (percent)	85	85	80	85	85	0.0
	U.S. shipments (million dollars)	9,350	9,350	9,100	9,550	9,550	0.0
	U.S. exports (million dollars)	2,166	2,028	2,316	2,674	2,708	1.3
	U.S. imports (million dollars)	1,318	1,185	1,419	1,589	1,898	19.4
	Apparent U.S. consumption (million dollars)	8,502	8,508	8,203	8,465	8,739	3.2
	Trade balance (million dollars)	848	842	897	1,085	811	-25.3
	Ratio of imports to consumption (percent)	15.5	13.9	17.3	18.8	21.7	15.4
	Ratio of exports to shipments (percent)	23.2	21.7	25.5	28.0	28.4	1.4
CH024	Adhesives and glues:						
	Number of establishments	606	585	564	543	522	-3.9
	Employees (thousands)	21.0	20.0	20.0	20.0	18.0	-10.0
	Capacity utilization (percent)	85	80	80	80	80	0.0
	U.S. shipments (million dollars)	7,200	7,200	7,200	7,200	7,200	0.0
	U.S. exports (million dollars)	565	588	600	702	807	14.8
	U.S. imports (million dollars)	176	206	251	305	333	9.1
	Apparent U.S. consumption (million dollars)	6,812	6,818	6,851	6,803	6,727	-1.1
	Trade balance (million dollars)	388	382	349	397	473	19.3
	Ratio of imports to consumption (percent)	2.6	3.0	3.7	4.5	5.0	11.1
	Ratio of exports to shipments (percent)	7.8	8.2	8.3	9.8	11.2	14.3
CH025	Medicinal chemicals:						
	Number of establishments	718	715	715	715	715	0.0
	Employees (thousands)	208.0	208.0	208.0	212.0	210.0	-0.9
	Capacity utilization (percent)	85	85	75	85	88	3.5
	U.S. shipments (million dollars)	107,000	107,000	107,010	113,500	113,850	(³)
	U.S. exports (million dollars)	18,169	18,742	22,527	27,098	29,296	8.1
	U.S. imports (million dollars)	33,956	40,699	49,284	52,677	56,104	6.5
	Apparent U.S. consumption (million dollars)	122,788	128,957	133,767	139,078	140,658	1.1
	Trade balance (million dollars)	-15,788	-21,957	-26,757	-25,578	-26,808	-4.8
	Ratio of imports to consumption (percent)	27.7	31.6	36.8	37.9	39.9	5.3
	Ratio of exports to shipments (percent)	17.0	17.5	21.1	23.9	25.7	7.5

See footnote(s) at end of table.

Table CH-6—Continued

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2001–2005

USITC code	Industry/commodity group	2001	2002	2003	2004	2005	Percent change, 2005 from 2004
CH026	Essential oils and other flavoring materials:						
	Number of establishments	53	53	53	53	53	0.0
	Employees (thousands)	50.0	50.0	50.0	50.0	48.0	-4.0
	Capacity utilization (percent)	82	82	82	85	82	-3.5
	U.S. shipments (million dollars)	3,500	3,700	3,900	4,100	4,200	2.4
	U.S. exports (million dollars)	1,109	1,211	1,389	1,462	1,420	-2.8
	U.S. imports (million dollars)	736	786	1,754	2,540	3,019	18.8
	Apparent U.S. consumption (million dollars)	3,127	3,275	4,265	5,178	5,798	12.0
	Trade balance (million dollars)	373	425	-365	-1,078	-1,598	-48.2
	Ratio of imports to consumption (percent)	23.5	24.0	41.1	49.1	52.1	6.1
	Ratio of exports to shipments (percent)	31.7	32.7	35.6	35.7	33.8	-5.3
CH027	Perfumes, cosmetics, and toiletries:						
	Number of establishments	650	650	650	650	650	0.0
	Employees (thousands)	59.0	60.0	62.0	60.0	57.0	-5.0
	Capacity utilization (percent)	87	87	88	89	85	-4.5
	U.S. shipments (million dollars)	23,300	23,000	24,000	26,000	26,500	1.9
	U.S. exports (million dollars)	3,187	3,160	3,435	3,900	4,418	13.3
	U.S. imports (million dollars)	2,443	2,716	3,111	3,652	4,099	12.2
	Apparent U.S. consumption (million dollars)	22,556	22,556	23,676	25,752	26,181	1.7
	Trade balance (million dollars)	744	444	324	248	319	28.4
	Ratio of imports to consumption (percent)	10.8	12.0	13.1	14.2	15.7	10.6
CH028	Soaps, detergents, and surface-active agents:						
	Number of establishments	950	950	950	950	950	0.0
	Employees (thousands)	52.0	52.0	52.0	50.0	49.0	-2.0
	Capacity utilization (percent)	87	87	85	88	87	-1.1
	U.S. shipments (million dollars)	19,500	19,800	21,000	22,500	24,000	6.7
	U.S. exports (million dollars)	2,223	2,282	2,524	2,929	3,192	9.0
	U.S. imports (million dollars)	1,115	1,273	1,369	1,568	1,680	7.2
	Apparent U.S. consumption (million dollars)	18,393	18,791	19,844	21,139	22,489	6.4
	Trade balance (million dollars)	1,107	1,009	1,156	1,361	1,511	11.1
	Ratio of imports to consumption (percent)	6.1	6.8	6.9	7.4	7.5	1.4
	Ratio of exports to shipments (percent)	11.4	11.5	12.0	13.0	13.3	2.3

See footnote(s) at end of table.

Table CH-6—Continued

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2001–2005

USITC code	Industry/commodity group	2001	2002	2003	2004	2005	Percent change, 2005 from 2004
CH030	Explosives, propellant powders, and related items:						
	Number of establishments	120	118	115	115	112	-2.6
	Employees (thousands)	13.0	13.0	13.0	13.0	13.0	0.0
	Capacity utilization (percent)	84	85	85	85	86	1.2
	U.S. shipments (million dollars)	2,110	2,200	2,285	2,400	2,590	7.9
	U.S. exports (million dollars)	254	286	385	472	476	0.8
	U.S. imports (million dollars)	285	302	353	402	459	14.3
	Apparent U.S. consumption (million dollars)	2,141	2,217	2,252	2,330	2,574	10.4
	Trade balance (million dollars)	-31	-17	33	70	16	-76.4
	Ratio of imports to consumption (percent)	13.3	13.6	15.7	17.2	17.8	3.5
	Ratio of exports to shipments (percent)	12.0	13.0	16.9	19.7	18.4	-6.6
CH031	Polyethylene resins in primary forms:						
	Number of establishments	46	46	46	46	46	0.0
	Employees (thousands)	22.0	22.0	22.0	22.0	22.0	0.0
	Capacity utilization (percent)	83	87	85	94	88	-6.4
	U.S. shipments (million dollars)	9,100	9,000	10,500	13,600	15,600	14.7
	U.S. exports (million dollars)	2,416	2,590	2,817	3,698	4,448	20.3
	U.S. imports (million dollars)	1,735	1,651	2,158	2,505	3,227	28.8
	Apparent U.S. consumption (million dollars)	8,419	8,062	9,842	12,408	14,379	15.9
	Trade balance (million dollars)	681	938	658	1,192	1,221	2.4
	Ratio of imports to consumption (percent)	20.6	20.5	21.9	20.2	22.4	10.9
CH032	Polypropylene resins in primary forms:						
	Number of establishments	28	28	28	29	29	0.0
	Employees (thousands)	6.0	6.0	6.0	6.0	6.0	0.0
	Capacity utilization (percent)	84	93	93	95	92	-3.2
	U.S. shipments (million dollars)	4,000	4,500	5,000	6,200	7,200	16.1
	U.S. exports (million dollars)	1,100	1,188	1,416	1,767	2,202	24.6
	U.S. imports (million dollars)	219	259	298	359	415	15.7
	Apparent U.S. consumption (million dollars)	3,119	3,571	3,882	4,792	5,413	13.0
	Trade balance (million dollars)	881	929	1,118	1,408	1,787	26.9
	Ratio of imports to consumption (percent)	7.0	7.2	7.7	7.5	7.7	2.7
	Ratio of exports to shipments (percent)	27.5	26.4	28.3	28.5	30.6	7.4

See footnote(s) at end of table.

Table CH-6—Continued

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2001–2005

USITC code	Industry/commodity group	2001	2002	2003	2004	2005	Percent change, 2005 from 2004
CH033	Polyvinyl chloride resins in primary forms:						
	Number of establishments	28	27	27	27	27	0.0
	Employees (thousands)	8.0	7.0	7.0	7.0	7.0	0.0
	Capacity utilization (percent)	81	91	88	95	91	-4.2
	U.S. shipments (million dollars)	3,500	4,000	4,500	6,200	6,300	1.6
	U.S. exports (million dollars)	1,004	781	837	1,044	1,112	6.5
	U.S. imports (million dollars)	332	247	287	383	593	55.0
	Apparent U.S. consumption (million dollars)	2,828	3,466	3,950	5,539	5,781	4.4
	Trade balance (million dollars)	672	534	550	661	519	-21.6
	Ratio of imports to consumption (percent)	11.7	7.1	7.3	6.9	10.3	49.3
	Ratio of exports to shipments (percent)	28.7	19.5	18.6	16.8	17.7	5.4
CH034	Styrene polymers in primary forms:						
	Number of establishments	70	71	71	71	71	0.0
	Employees (thousands)	11.0	12.0	12.0	12.0	12.0	0.0
	Capacity utilization (percent)	80	82	82	86	80	-7.0
	U.S. shipments (million dollars)	5,200	5,700	5,900	7,400	8,300	12.2
	U.S. exports (million dollars)	731	752	783	929	1,039	11.9
	U.S. imports (million dollars)	579	580	628	833	1,153	38.4
	Apparent U.S. consumption (million dollars)	5,048	5,528	5,745	7,304	8,414	15.2
	Trade balance (million dollars)	152	172	155	96	-114	(⁴)
	Ratio of imports to consumption (percent)	11.5	10.5	10.9	11.4	13.7	20.2
CH035	Saturated polyester resins:						
	Number of establishments	52	54	55	55	55	0.0
	Employees (thousands)	6.0	7.0	7.0	7.0	7.0	0.0
	Capacity utilization (percent)	85	85	85	90	90	0.0
	U.S. shipments (million dollars)	5,200	5,500	5,800	6,800	7,800	14.7
	U.S. exports (million dollars)	798	712	814	1,014	1,059	4.4
	U.S. imports (million dollars)	502	537	656	728	1,199	64.7
	Apparent U.S. consumption (million dollars)	4,904	5,325	5,642	6,515	7,941	21.9
	Trade balance (million dollars)	296	175	158	285	-141	(⁴)
	Ratio of imports to consumption (percent)	10.2	10.1	11.6	11.2	15.1	34.8
	Ratio of exports to shipments (percent)	15.3	13.0	14.0	14.9	13.6	-8.7

See footnote(s) at end of table.

Table CH-6—Continued

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2001–2005

USITC code	Industry/commodity group	2001	2002	2003	2004	2005	Percent change, 2005 from 2004
CH037	Styrene-butadiene rubber in primary forms:						
	Number of establishments	11	11	11	11	11	0.0
	Employees (thousands)	5.0	5.0	5.0	5.0	5.0	0.0
	Capacity utilization (percent)	90	92	93	94	95	1.1
	U.S. shipments (million dollars)	1,430	1,490	1,600	1,700	1,800	5.9
	U.S. exports (million dollars)	297	273	324	374	505	34.9
	U.S. imports (million dollars)	258	232	231	235	415	76.3
	Apparent U.S. consumption (million dollars)	1,391	1,449	1,507	1,561	1,710	9.5
	Trade balance (million dollars)	39	41	93	139	90	-35.4
	Ratio of imports to consumption (percent)	18.6	16.0	15.4	15.1	24.3	60.9
	Ratio of exports to shipments (percent)	20.8	18.3	20.3	22.0	28.0	27.3
CH038	Other synthetic rubber:						
	Number of establishments	34	34	(1)	34	34	0.0
	Employees (thousands)	11.0	11.0	(1)	11.0	11.0	0.0
	Capacity utilization (percent)	83	83	(1)	85	86	1.2
	U.S. shipments (million dollars)	4,290	4,300	(1)	4,600	4,700	2.2
	U.S. exports (million dollars)	1,328	1,361	1,478	1,801	2,160	20.0
	U.S. imports (million dollars)	734	725	741	858	1,117	30.2
	Apparent U.S. consumption (million dollars)	3,696	3,664	(1)	3,657	3,657	0.0
	Trade balance (million dollars)	594	636	737	943	1,043	10.6
	Ratio of imports to consumption (percent)	19.9	19.8	(1)	23.5	30.5	29.8
	Ratio of exports to shipments (percent)	31.0	31.7	(1)	39.1	46.0	17.6
CH039	Pneumatic tires and tubes (new):						
	Number of establishments	42	42	42	42	42	0.0
	Employees (thousands)	63.0	64.0	64.0	64.0	64.0	0.0
	Capacity utilization (percent)	90	90	92	92	92	0.0
	U.S. shipments (million dollars)	13,400	13,500	14,000	14,500	14,700	1.4
	U.S. exports (million dollars)	2,282	2,233	2,212	2,550	2,810	10.2
	U.S. imports (million dollars)	4,146	4,694	5,170	6,163	7,583	23.0
	Apparent U.S. consumption (million dollars)	15,264	15,960	16,957	18,113	19,473	7.5
	Trade balance (million dollars)	-1,864	-2,460	-2,957	-3,613	-4,773	-32.1
	Ratio of imports to consumption (percent)	27.2	29.4	30.5	34.0	38.9	14.4
	Ratio of exports to shipments (percent)	17.0	16.5	15.8	17.6	19.1	8.5

See footnote(s) at end of table.

Table CH-6—Continued

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2001–2005

USITC code	Industry/commodity group	2001	2002	2003	2004	2005	Percent change, 2005 from 2004
CH040	Other tires:						
	Number of establishments	1,400	1,400	1,400	1,400	1,400	0.0
	Employees (thousands)	8.0	8.0	8.0	8.0	8.0	0.0
	Capacity utilization (percent)	90	90	90	90	90	0.0
	U.S. shipments (million dollars)	1,100	1,100	1,100	1,100	1,100	0.0
	U.S. exports (million dollars)	96	94	98	108	116	7.5
	U.S. imports (million dollars)	122	123	137	158	203	28.7
	Apparent U.S. consumption (million dollars)	1,126	1,129	1,139	1,150	1,187	3.2
	Trade balance (million dollars)	-26	-29	-39	-50	-87	-74.3
	Ratio of imports to consumption (percent)	10.8	10.9	12.0	13.7	17.1	24.8
	Ratio of exports to shipments (percent)	8.8	8.6	8.9	9.8	10.6	8.2
CH044	Natural rubber:	(¹)					
	Number of establishments	(¹)					
	Employees (thousands)	(¹)					
	Capacity utilization (percent)	(¹)					
	U.S. shipments (million dollars)	(¹)					
	U.S. exports (million dollars)	34	40	59	37	34	-6.0
	U.S. imports (million dollars)	613	751	1,047	1,466	1,552	5.9
	Apparent U.S. consumption (million dollars)	(¹)					
	Trade balance (million dollars)	-579	-712	-988	-1,429	-1,517	-6.2
	Ratio of imports to consumption (percent)	(¹)					
	Ratio of exports to shipments (percent)	(¹)					

¹ Not available.² Inventory changes, for which data are not available, likely account for ratios that exceed 100 percent.³ Less than 0.05 percent.⁴ Not meaningful.

Note.—Calculations based on unrounded data.

Source: These data have been estimated by the Commission's international trade analysts on the basis of primary and secondary data sources including discussions with various Government and industry contacts. These estimated data are subject to change either from secondary sources or from detailed surveys the Commission often conducts in the course of statutory investigations or other work. Further, these data may undergo adjustments based on revisions in tariff nomenclature, classification practices, or redefinitions of industry classes.